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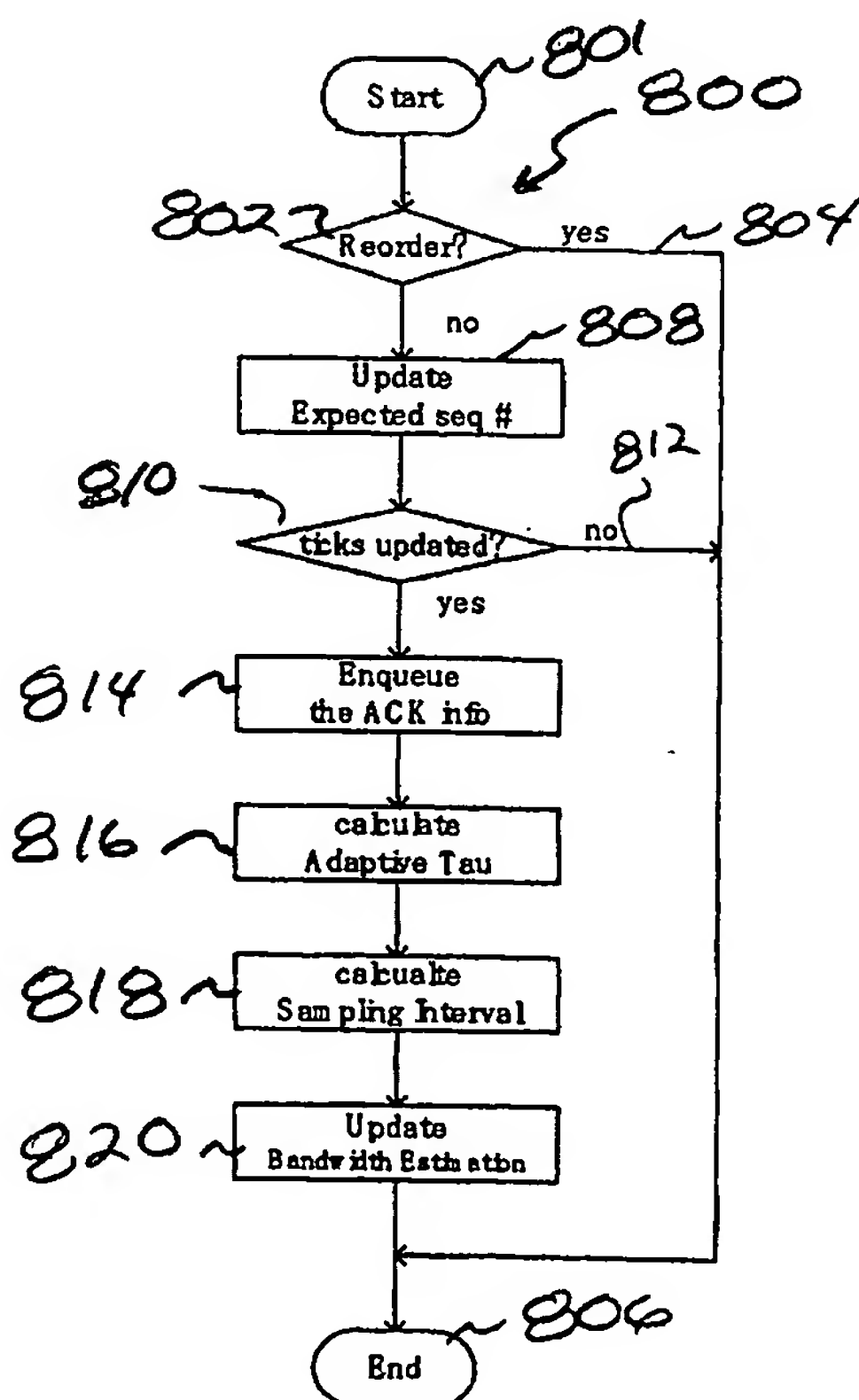
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(54) Title: METHOD AND APPARATUS FOR IMPROVED DATA TRANSMISSION

(57) Abstract: Methods and apparatuses for improved data transmission control protocols. Acknowledgment streams are used by a sender process to generate various estimates of eligible transmission rates (820) that are fair to other processes competing for bandwidth across a common network. In addition, the acknowledgment streams are used in conjunction with various other standard transmission control protocol metrics to adapt a filter for use on the rate estimates. Additional improvements in throughput may be had by measuring the overall capacity of the computer network using packet pair dispersion measurements and adaptive network probing. In addition, the methods may be adapted for both packet transmission and video streaming applications.



WO 2004/088858 A3



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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 370/236, 241

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0071388 A1 (BERGSSON et al) 13 June 2002 (13.06.2002), abstract and figs. 2-4.	1-3, 5-13 and 15-20
Y		4 and 14
Y	US 2002/0122385 A1 (BANERJEE) 05 September 2002 (05.09.2002), fig. 2.	4 and 14

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

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Continuation of B. FIELDS SEARCHED Item 3:
EAST
search terms: TCP, rate